

13 JULY 2020

# Highly promising gold-silver-lead-zinc intersections from Bramaderos trenching

Latest results from the Espiritu prospect include 4m at 415g/t silver, 0.9g/t gold, 6.9% zinc and 6% lead; Drilling to start at Espiritu and nearby porphyry targets in September

# **Key Points**

- Strong start to resumption of exploration at the Bramaderos gold-copper project in Ecuador, with the first trench at the Espiritu gold-silver target completed
- This trench has intersected a gold-silver polymetallic system assaying
  - 21m at 82.4g/t silver, 0.3g/t gold, 1.4% zinc and 1.2% lead, including;
    - 4m at 415g/t silver, 0.9g/t gold, 6.9% zinc and 6% lead
- This follows previously reported rock chip and float sampling which returned results of 4.2g/t gold and 101g/t silver, 11.9g/t gold and 175g/t silver, and 11.6g/t gold and 2,962g/t silver
- The Espiritu target, defined on the basis of gold and silver soil anomalies with supporting rock chip samples, extends over an area of 800m x 600m with what appears to be multiple parallel mineralised structures
- The Espiritu trenching program is ongoing in preparation for drilling to resume in September
- At least 12 other gold-silver targets are also being followed up including target E1, where historical rock chip sampling returned results of up to 32.5g/t gold, 271g/t silver and 0.16% lead
- Drill targeting and follow-up surface exploration over 5 porphyry targets is progressing well; Drilling is expected to commence at the Brama and Porotillo targets in the next phase of drilling to start in September
- Sunstone's investment in Stockholm-listed Copperstone Resources AB is valued at ~A\$25.5M compared to Sunstone's current market capitalisation of ~A\$20M
- Sunstone is well funded to advance the exploration program at Bramaderos across epithermal gold-silver and porphyry gold-copper targets

Sunstone Metals Ltd (ASX: STM) is pleased to announce highly promising results from its 87.5 per cent-owned Bramaderos gold-copper Project in Ecuador.

Exploration has resumed at Bramaderos under strict operating procedures to responsibly manage the risks associated with Covid-19.

The initial work program is focussed on the Espiritu gold-silver target area (Figures 1 and 2). The results from the first trench are very encouraging, returning high grades of silver, lead, and zinc with associated gold over



a width of 4m (Figure 2) within a broader zone of 21m at 82.4 g/t silver (Table 1). The mineralisation exposed in Trench ES-01 is interpreted to be part of a gold-silver polymetallic system (see below for technical explanation) which typically occur on the margins of porphyry gold-copper deposits. Multiple targets within the broader Espiritu anomaly have been identified for further soil sampling, trenching and drilling and this work is now underway with further results expected during August and September.

Table 1

Trench ES-01	Interval (m)	Gold (g/t)	Silver (g/t)	Lead (%)	Zinc (%)
	21	0.3	82.4	1.2	1.4
including	4	0.9	414.8	6.0	6.9
including	1	1.4	1001.0	16.9	5.7

Sunstone Managing Director Malcolm Norris said: "We consider these results to be highly promising and we are keen to commence drilling as soon as possible. Espiritu will be the first target drilled in September and following that we will move the rig to test our porphyry targets and other developing gold-silver epithermal targets."

Targeting of similar mineralised systems within the Bramaderos concession has been on-going during the easing of restrictions related to Covid-19 and has resulted in the generation of at least 12 targets (Figure 1). These will be explored initially with more detailed soil sampling and this work has commenced at the E-1 target (Figure 1).

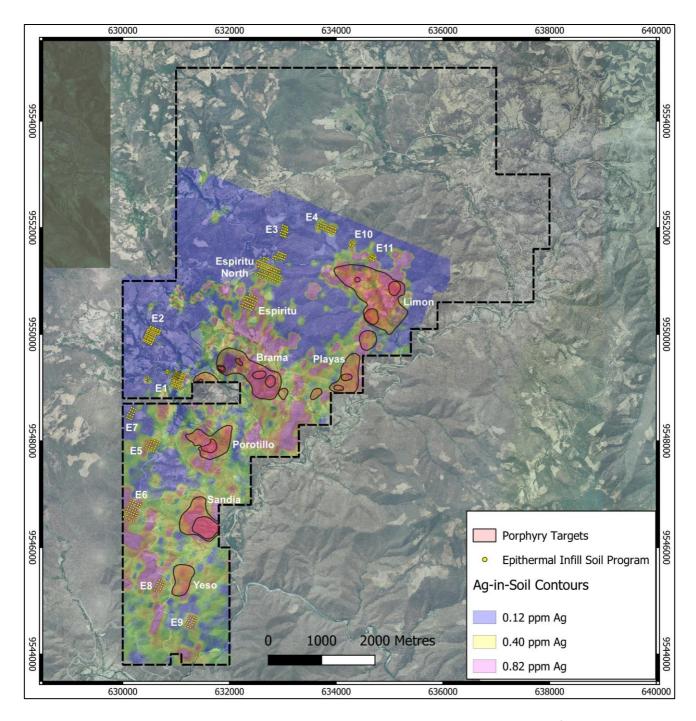
Data review and drill targeting over 5 large porphyry gold-copper targets has also been on-going during the Covid-19 shut down period. These areas will be drilled during 2020, targeting higher grade zones within currently defined large porphyry gold-copper systems. For example, at Brama, at least 4 targets exist for higher grade gold-copper domains within a large >0.2g/t gold system that has dimensions exceeding 1,000m in strike extent (Figure 1).

#### **Polymetallic Gold-Silver deposits:**

Polymetallic gold-silver deposits are a class of epithermal to mesothermal vein deposits and replacement bodies which typically occur around the margins of porphyry gold-copper deposits. They are structurally controlled, display a range of gold-silver-lead-zinc-copper ratios and can occur over many kilometres around large porphyry systems. They appear to be relatively more common in North and South America and can develop into significant orebodies in their own right, such as Fresnillo in Mexico which hosts 83mt at 0.58g/t gold and 395g/t silver (ref - J. Cunliffe, in Terry Leach Symposium 2008).

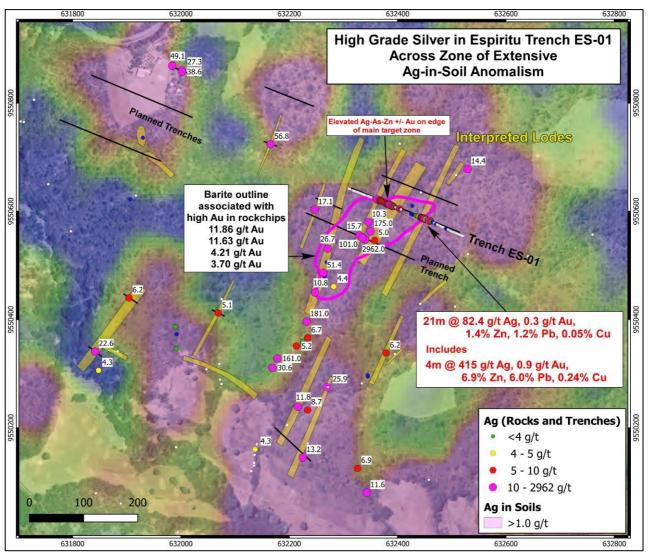
#### **Investment in Copperstone Resources AB:**

In Sweden, Copperstone Resources AB continues to advance work on the Viscaria Copper Project. Copperstone's share price has increased significantly recently and Sunstone's current ~25 per cent stake is valued at ~A\$25.5 million. Sunstone's shares are under escrow to 9<sup>th</sup> September 2020, after which Sunstone has greater flexibility in monetising this investment, if required. Sunstone remains optimistic regarding its investment in Copperstone given recent very encouraging drilling results from the Viscaria Project (see ASX announcement dated 24 March 2020), and an increasing copper price environment. Sunstone has further exposure to success at Viscaria, with Copperstone to make a Stage 2 payment to Sunstone of 20 MSEK (~A\$3.1 million) and issue Sunstone an additional 46 million COPP B shares (valued at ~A\$7.3 million) upon issuance of an Environmental Permit for the development of Viscaria.



**Figure 1:** Bramaderos concession showing grid soil sampling areas in yellow dots to be followed up during 2020. The exploration team are currently working at Espiritu and E1.





**Figure 2:** Espiritu target area showing current and planned trench locations, silver in rock chip values, and gold in rock chip samples within the barite zone. The background image is silver-in-soil sample results



#### **About Sunstone Metals**

Sunstone has an advanced portfolio of exploration and development projects in Scandinavia and Ecuador. The portfolio comprises:

- 1. The Bramaderos Gold-Copper Project where Sunstone owns an 87.5% interest with TSXV listed Cornerstone Capital Resources holding 12.5% (see ASX announcement dated 10<sup>th</sup> April 2017, 28<sup>th</sup> August 2019, and 7 January 2020). The Bramaderos gold-copper project is located in Loja province, southern Ecuador, and is considered to be highly prospective for the discovery of large porphyry gold-copper systems, and high-grade epithermal gold systems. Historical exploration results from drilling at Bramaderos together with recent exploration by Sunstone and joint venture partner Cornerstone Capital Resources (TSXV:CGP) indicate multiple fertile mineralised systems with significant discovery potential.
- 2. Sunstone has a significant equity interest of ~25% in Stockholm listed Copperstone Resources (COPP-B.ST) following the sale of the Viscaria Copper project to Copperstone in 2019. Sunstone has further exposure to success at Viscaria, with Copperstone to make a Stage 2 payment to Sunstone of 20 MSEK (~A\$3.1 million) and issue Sunstone an additional 46 million COPP B shares (valued at ~A\$7.3 million) upon issuance of an Environmental Permit for the development of Viscaria.
- 3. The Southern Finland Gold Project includes the Satulinmäki gold prospect. Shallow diamond drilling was completed by the Geological Survey of Finland (GTK) during the period 2000-2005 and this was followed by a 7-hole diamond drilling program by Sunstone Metals in 2016. Intersections from GTK include 18m @ 4.1g/t Au from 50m downhole, including 3m @ 9.3g/t Au, and 4m @ 10.3g/t Au in drill hole R391. Intersections by Sunstone include 23.5m at 3.3g/t in SMDD007 and 2m at 10.5g/t in SMDD005. The Satulinmäki gold prospect is part of an earn-in JV with Canadian company Nortec Minerals, where Sunstone holds an ~82% interest, is funding on-going work, and has also acquired a significant land position, in its own right, in the district.
- 4. **The Scandinavian Lithium Project** includes the Kietyönmäki lithium prospect. Drilling by Sunstone has delivered 24.2m at 1.4% Li₂O in a spodumene-bearing pegmatite. Kietyönmäki is also part of the JV with Nortec Minerals.

#### **Competent Persons Statement**

The information in this report that relates to exploration results is based upon information reviewed by Dr Bruce Rohrlach who is a Member of the Australasian Institute of Mining and Metallurgy. Dr Rohrlach is a full-time employee of Sunstone Metals Ltd and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr Rohrlach consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Mr Malcolm Norris, Managing Director of Sunstone Metals Ltd., has authorised this announcement to be lodged with the ASX.

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### APPENDIX 1

The following Table and Sections are provided to ensure compliance with the JORC Code (2012 Edition)

<u>TABLE 1 – Section 1: Sampling Techniques and Data</u>

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.	The results announced here are from rock chip samples and hand cut channel samples within a trench.
	• Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	• Samples were taken randomly with focus on those exhibiting alteration and mineralisation, and samples from within a hand dug trench and hand cut channel samples.
	• Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	<ul> <li>Rock chip and channel sampling points have been guided by geological mapping. The samples were dried, crushed to 70% passing 2mm, Split 1000g and pulverised to 85% passing 75microns. A 20g portion of this sample was used for multi-element analysis (IMS-230) and a 30g sample for Fire Assay Au (FAS-111).</li> </ul>
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	This target area has not been drilled by Sunstone or during any phases of historical exploration.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	This target area has not been drilled by Sunstone or during any phases of historical exploration.
•	Measures taken to maximise sample recovery and ensure representative nature of the samples.	• Samples from rock chips are representative of a local area only. Trench samples have been taken across the geological structural trend.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No relationship between sample recovery and grade has been established.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Trench samples and rock chips were logged for lithology, weathering, structure, mineralogy, mineralisation, colour, and other features. Logging and sampling were carried out according to Sunstone's internal protocols and QAQC procedures which comply with industry standards.
	Whether logging is qualitative or quantitative in nature.  Core (or costean, channel, etc.) photography.	Trench and rock chip samples are logged for lithology, weathering, structure, mineralogy, mineralisation, colour, and other features.
	The total length and percentage of the relevant intersections logged.	The trenches are logged in full, from start to finish of the excavation.
Sub-sampling techniques and	• If core, whether cut or sawn and whether quarter, half or all core taken.	Standard rock chip samples and channel samples.
sample preparation	• If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Standard rock chip samples and channel samples.
	• For all sample types, the nature, quality and appropriateness of the sample preparation technique.	• Samples were sent to the LAC y Asociados Cia. Ltda. Sample Preparation Facility in Cuenca, Ecuador for sample preparation. The standard sample preparation



Criteria	JORC Code explanation	Commentary
		for drill core samples (Code PRP-910) is: Drying the sample, crushing to size fraction 70% <2mm and splitting the sample to a 250g portion by riffle or Boyd rotary splitter. The 250g sample is then pulverised to >85% passing 75 microns and then split into two 50g pulp samples. Then one of the pulp samples was sent to the MS Analytical Laboratory in Vancouver (Unit 1, 20120 102nd Avenue, Langley, BC V1M 4B4, Canada) for gold and base metal analysis.  • The sample preparation is carried out according to industry standard practices using highly appropriate sample preparation techniques.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	<ul> <li>Sunstone used an industry standard QAQC programme involving Certified Reference Materials "standards" and blank samples, which were introduced in the assay batches.</li> <li>Standards (Certified Reference Materials) or analytical blanks were submitted at a rate of 1 in 28 samples. Field duplicates were also taken at a rate of approximately 1 in 28 samples.</li> <li>The check or duplicate assay results are reported along with the sample assay values in the final analysis report.</li> </ul>
	<ul> <li>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</li> </ul>	For channel sampling within trenches, the routine sample procedure is to take consecutive samples over approximately 1m lengths .
	Whether sample sizes are appropriate to the grain size of the material being sampled.	• Sample sizes are considered to be appropriate for the style of sampling undertaken and the grainsize of the material, and correctly represent the style and type of mineralisation at the exploration stage.
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	<ul> <li>Sunstone uses a fire assay gold technique for Au assays (FAS-111) and a four acid multi element technique (IMS-230) for a suite of 48 elements. FAS-111 involves Au by Fire Assay on a 30-gram aliquot, fusion and atomic absorption spectroscopy (AAS) at trace levels. IMS-20 is considered a near total 4 acid technique using a 20g aliquot followed by multi-element analysis by ICP-AES/MS at ultra-trace levels.</li> <li>This analysis technique is considered suitable for this style of mineralisation.</li> </ul>
	• For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	Handheld XRF data are used as a guide to areas of potential mineralisation and samples from these areas are sent for laboratory analysis as described above.
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	<ul> <li>Standards, blanks and duplicates are inserted ~1/28 samples. The values of the standards range from low to high grade and are considered appropriate to monitor performance of values near cut-off and near the mean grade of the deposit.</li> <li>The check sampling results are monitored, and performance issues are communicated to the laboratory if necessary.</li> </ul>
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Procedure checks have been completed by the Competent Person for exploration results for this announcement.
assaying	The use of twinned holes.	No drilling has been undertaken in this area.



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Criteria	JORC Code explanation	Commentary	
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Sunstone sampling data were imported and validated using Excel.	
	Discuss any adjustment to assay data.	Assay data were not adjusted.	
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Sample co-ordinates are located by GPS and for trench samples measured along the length of the trench.	
	Specification of the grid system used.	Southern Ecuador projection parameters:	
		Parameter Value	
		Reference Ellipsoid International 1924	
		Semi Major Axis	
		Inverse Flattening (1/f)	
		Type of Projection UTM Zone -17S (Datum PSAD56)	
		Central Meridian: -81.0000	
		Latitude of Origin 0.0000	
		Scale on Central Meridian 0.9996	
		False Northing 10000000	
		False Easting 500000	
	Quality and adequacy of topographic control.	The topographic control was compared against published maps and satellite imagery and found to be good quality.	
Data spacing and distribution	Data spacing for reporting of Exploration Results.	• The rock chip samples were collected from an area of 800m x 800m, and the channel samples within trench ES-01 collected every ~1-2m.	
	Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	The data from these samples does not contribute to any resource estimate nor implies any grade continuity.	
	Whether sample compositing has been applied.	No sample compositing was done.	
Orientation of data in relation to geological	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Trench orientations and rock chip locations were appropriate for the interpreted geology providing representative samples.	
structure	• If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	No sampling bias is expected at this stage. There has been no historical drilling on this target.	
Sample security	The measures taken to ensure sample security.	<ul> <li>Sunstone sampling procedures indicate individual samples were given due attention.</li> <li>Sample security was managed through sealed individual samples and sealed bags of multiple samples for secure delivery to the laboratory by permanent staff of the joint venture.</li> <li>MS Analytical is an internationally accredited laboratory that has all its internal procedures heavily scrutinised in order to maintain their accreditation. MS Analytical is accredited to ISO/IEC 17025 2005 Accredited Methods.</li> </ul>	
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Sunstone's and Cornerstone's sampling techniques and data have been audited multiple times by independent mining consultants during various	



Criteria	JORC Code explanation	Commentary
		<ul> <li>project assessments. These audits have concluded that the sampling techniques and data management are to industry standards.</li> <li>All historical data has been validated to the best degree possible and migrated into a database.</li> </ul>

# TABLE 1 – Section 2: Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The Bramaderos Exploration Concession is located in the Loja Province of southern Ecuador. The concession was granted to La Plata Minerales S.A. ("PLAMIN") in January 2017. PLAMIN is a subsidiary of Sunstone Metals Ltd. The concession is subject to a Joint Venture between Cornerstone Capital Resources Inc. and Sunstone Metals Ltd. There are no wilderness areas or national parks or areas of environmental significance within or adjoining the concession area. There are no native title interests.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Bramaderos Exploration Concession was granted to La Plata Minerales S.A. ("PLAMIN") in January 2017. PLAMIN is now a subsidiary of Sunstone Metals Ltd. The Bramaderos Concession is subject to a Joint Venture between Sunstone Metals and Cornerstone. Sunstone has an 87.5% interest in the JV.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The historic exploration was completed by various groups over the period 1970-1984, 2001-2002 and 2004-2007. Most of the readily available historic data has been acquired and compiled into databases and a GIS project. Exploration by other parties has included stream sediment surveys, geological mapping, rock chip sampling (888 samples) and grid-based soil sampling (1324 samples), trenching and channel sampling (17 trenches), ground magnetic surveys (31 line kilometres), electrical IP surveys and diamond drilling (10426m).  No significant historical exploration has been undertaken in the Espiritu target area.
Geology	Deposit type, geological setting and style of mineralisation.	The deposit style being explored for includes intrusion- related and stockwork hosted porphyry Au-Cu systems plus low sulphidation epithermal gold-silver veins. The setting is a volcanic arc setting of Cretaceous age intrusions.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:     a. easting and northing of the drill hole collar b. elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar c. dip and azimuth of the hole d. down hole length and interception depth e. hole length.	<ul> <li>Details of the samples discussed in this announcement are in the body of the text.</li> <li>See Table 1 and Figures 1&amp;2 for the location of trenching activities.</li> </ul>
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	Information included in announcement.



Criteria	JORC Code explanation	Commentary
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.	<ul> <li>Weighted averages were calculated over reported intervals according to sample length.</li> <li>No grade cut-offs were applied.</li> </ul>
	Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	No aggregating of intervals undertaken at this stage.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Metal equivalents are not presented.
Relationship between mineralisation	• If the geometry of the mineralisation with respect to the drill-hole angle is known, its nature should be reported.	Figure 2 shows the interpreted strike orientation of the mineralised lodes based on mapping and interpretation of detailed magnetic data.
widths and intercept lengths	• If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	True widths of mineralised lodes are not known at this stage because no drilling has been undertaken on this target area.
Diagrams	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	See Figures 1-2 for maps showing distribution of samples.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Figures 1-2 above show the current interpretations of geology. Drill planning will follow.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported) including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Figures 1 -2 above show various datasets that are being used to identify target areas and to guide current and future drilling.
Further work	• The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	The planned exploration program is outlined in the announcement.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	See Figures 1-2 which show areas for further exploration.